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REMARKS

Claims 1 through 5, 7 through 12, 14, 16 through 18 and new Claims 19 through 21 are pending in the application.

Claim 1 has been amended to reflect that the overlayer (A) advantageously includes polyester selected from one or more of polyethylene terephthalate, polyethylene 2,6-naphthalate, poly-1,4-cyclohexanedimethylene terephthalate and polyethylene 2,6-naphthalate bibenzoate. Support for this amendment can be found in the Application-as-filed, for example on Page 4, lines 18 through 25 and Page 8, lines 3 through 4.

Claim 1 has been also amended to reflect that in advantageous embodiments the overlayer (A) forms an outermost layer of the inventive films. Support for this amendment can be found in the Application-as-filed, for example on Page 7, line 30 through Page 8, line 1.

Claims 19 through 21 have been added to complete the record for examination and highlight advantageous embodiments of the invention.

Claim 19 is directed to advantageous embodiments of the invention in which at least one surface of the film has an average roughness Ra of from 10 to 100 nm and a gloss (angle of incidence = 20°) of greater than 100. Support for Claim 19 can be found in the Application-as-filed, for example on Page 10, lines 18 through 19.

Claim 20 is directed to particularly advantageous embodiments of the invention in which the base layer (B) comprises from 5 to 20 weight % poly(m-xylenedipamide), the overlayer (A) comprises from 10 to 90 weight % poly(m-xylenedipamide), and the film exhibits an oxygen transmission of less than $30 \text{ cm}^3/(\text{m}^2 \cdot \text{bar} \cdot \text{d})$ based on 12 μm thick film and an interlaminar adhesion of greater than 1.5 N/25 mm. Support for Claim 20 can be found in the Application-as-filed, for example on Page 14, Table 1.

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Claim 21 is directed to beneficial aspects of such advantageous embodiments, in which the film further includes a layer (C) disposed on layer (B) on the surface opposite layer (A) and layer (C) alone comprises an anti-blocking agent. Support for Claim 21 can be found in the Application-as-filed, for example in Example 2 on Page 19, line 13 through Page 20, line 12.

Applicants take this opportunity to note that, in contrast to the opinion urged within the Office Action, Applicants' Amendment was filed on February 3, 2005. Furthermore, Applicants respectfully request entry of Claims 17 and 18 above, submitted in Applicant's Amendment of February 3, 2005. The Examiner's attention is kindly directed to the PAIR system; Image File Wrapper; Mail Room Date 02/03/05; Claims; Page 3.

Applicants respectfully submit that this response does not raise new issues, but merely places the above-referenced application either in condition for allowance, or alternatively, in better form for appeal. Reexamination and reconsideration of this application, withdrawal of all rejections, and formal notification of the allowability of the pending claims are earnestly solicited in light of the remarks which follow.

Section 112 Rejection

Claim 11 stands rejected under 35 USC § 112, as failing to further limit the subject matter of Claim 1. Applicants respectfully submit that Claim 11 does not depend directly upon Claim 1. Claim 11 instead depends directly from dependent Claim 10. Consequently, Claim 11 is directed to polyester films having overlayers A and C, in which the overlayers comprise the polyester used for the base layer (B).

Accordingly, Applicants respectfully request withdrawal of this rejection.

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The Claimed Invention is Patentable
in Light of the Art of Record

Claims 1 through 14 and 16 stand rejected as anticipated by United States Patent No. 6,562,276 to Shelby et al. ("US 276").

It may be useful to briefly consider the invention before addressing the merits of the rejection.

Polyester films are widely known for packaging applications. Unfortunately, polyester alone does not exhibit the elevated level of barrier properties required in a number of applications.

Poly(m-xyleneadipamide) (MXD6) is known to have superior barrier properties in comparison to polyester. Unfortunately, MXD6 and polyester are incompatible.

Surprisingly, Applicants have found multilayered films having tailored layer compositions that exhibit a heretofore unknown balance of barrier properties and interlaminar adhesion. In especially advantageous embodiments at least one surface of the inventive films further exhibit a highly advantageous surface roughness value and associated elevated gloss.

Consequently, the claims are directed to polyester films having a base layer (B) and at least one overlayer (A) forming an outermost layer of the film. The base layer (B) comprises thermoplastic polyester. The overlayer (A) comprises a mixture of (i) thermoplastic polyester selected from one or more of polyethylene terephthalate, polyethylene 2,6-naphthalate, poly-1,4-cyclohexanedimethylene terephthalate and polyethylene 2,6-naphthalate bibenzoate and (ii) poly(m-xyleneadipamide). The films of the invention film exhibit an oxygen transmission of less than $50 \text{ cm}^3/(\text{m}^2 \cdot \text{bar} \cdot \text{d})$ based on 12 μm thick film and an interlaminar adhesion of greater than 0.5 N/25 mm.

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US 276 does not teach or suggest the claimed invention.

Applicants respectfully reiterate that US 276 is generally directed to the elimination of melt flow defects within articles that include both a structural layer and a performance layer. (Col. 1, lines 13 – 16 and Col. 2, lines 30 – 33). Suitable structural layer polymers include polyesters, such as PET. (Col. 18, lines 1 – 59). Suitable performance layer polymers include a laundry list of barrier polymers, including saponified EVOH. (Col. 18, line 60 through Col. 20, line 41). US 276 generally indicates that the structural layer is formed entirely from structural polymer and the performance layer is formed entirely from barrier polymer. (Col. 24, Table 3). US 276 generically notes that a laundry list of additives may be included within its films, in unspecified amounts. (Col. 20, lines 53 – 61).

As correctly noted by the Examiner, US 276 positions the performance layer within the interior of the resulting multilayered film. (Col. 23, lines 34 – 35 and lines 60 – 61). US 276 discloses comparative examples having outer layers formed entirely from performance polymer; however, these films are noted to suffer from interfacial stresses, i.e. interfacial chevrons. (Col. 24, lines 5 – 14; Run #s 6 – 8). Consequently, US 276 recommends including the performance polymer as the innermost film layer. (Col. 23, lines 43 – 47).

Applicants respectfully reiterate that US 276 expressly notes that it does not address the interlaminar adhesion of the resulting article. (Col. 12, line 64 – Col. 13, line 8, stating that its method “only addresses” layer thickness distribution and interfacial flow instabilities). US 276 then goes on to recommend tie layers to improve interlaminar adhesion. (Col. 13, lines 7 – 8, stating that poor adhesion may be corrected by a tie layer).

Consequently, US 276 does not teach or suggest the claimed overlayer (A) that includes a mixture of recited polyesters and poly(m-xylenedipamide), much less such an overlayer forming an outermost layer of a multilayered film. In fact, US 276 teaches away from such a construction, as noted above.

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Furthermore, in contrast to the opinion urged within the Office Action, the recited adhesion is not an inherent property of US 276. US 276 indicates that films having an outermost performance polymer layer suffer from chevrons. Interfacial stresses inducing such chevrons would be expected to decrease the interlaminar adhesion of the resulting films. Hence US 276 does not necessarily and inevitably produce the recited interlaminar adhesion. *In re Robertson* (1999). Accordingly, Applicants respectfully submit that US 276 does not teach or suggest, either explicitly or inherently, the recited films having an outermost layer including a mixture of the recited polyesters and poly(m-xylenedipamide) that further provide an interlaminar adhesion of greater than 0.5 N/25 mm.

US 276 merely generically notes that its articles may be coextruded. Consequently, US 276 can not teach or suggest the recited polyester films having a planar orientation of less than 0.160, as recited in Claim 17.

US 276 similarly generically references additives in unspecified amounts, and is further silent as to the roughness and gloss of its films. Applicants additionally respectfully submit that US 276 does not necessarily and inevitably produce the recited roughness and gloss. *In re Robertson* (1999). Accordingly, US 276 can not teach or suggest, either explicitly or inherently, the advantageous films of Claim 19, in which at least one surface of the film has an average roughness Ra of from 10 to 100 nm and a gloss (angle of incidence = 20°) of greater than 100.

US 276 further does not teach or suggest films in which a base layer (B) includes from 5 to 20% poly(m-xylenedipamide) and an overlayer (A) includes from 10 to 90 % poly(m-xylenedipamide) to form films exhibiting an oxygen transmission of less than $30 \text{ cm}^3/(\text{m}^2 \cdot \text{bar} \cdot \text{d})$ based on 12 μm thick film and an interlaminar adhesion of greater than 1.5 N/25 mm, as recited in Claim 20.

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And US 276 most certainly does not teach or suggest such films further including a layer (C) disposed on layer (B) on the surface opposite layer (A), in which said layer (C) alone includes an anti-blocking agent, as recited in Claim 21.

Accordingly, Applicants respectfully submit that Claims 1 through 5, 7 through 12, 14, and 16 through 21 are patentable in light of US 276.

CONCLUSION

It is respectfully submitted that Applicants have made a significant and important contribution to the art, which is neither disclosed nor suggested in the art. It is believed that all of pending Claims 1 through 5, 7 through 12, 14, and 16 through 21 are now in condition for immediate allowance. It is requested that the Examiner telephone the undersigned if any questions remain to expedite examination of this application.

It is not believed that extensions of time or fees are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time and/or fees are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required is hereby authorized to be charged to Deposit Account No. 50-2193.

Respectfully submitted,

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